SOP000188

TENNESSEE DEPARTMENT OF AGRICULTURE
Water Resources Program

January 24, 2012

Ms. Erin O'Brien
TDEC
L&C Annex, 6th Floor
Nashville, Tennessee 37243

Dear Ms. O'Brien:

I am writing to inform you that the Tennessee Department of Agriculture (TDA) has reviewed the application and Nutrient Management Plan (NMP) for CAFO permit for Mr. Russ Carmichael, Carmichael Farms, in Calhoun, Tennessee (previous NPDES Permit NO. TNA000165).

This letter is to confirm that the TDA has reviewed and approved the NMP. I have enclosed a copy of the Nutrient Management Plan Requirements form and the signed and dated Notice of Intent (NOI) form, Addendum to Nutrient Management Plan, Closure Plan, NMP, and stamped Approval Stamp form for your review and final approval.

Sincerely,

Angela L. Warden
CAFO Specialist

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: //enclosures

ec:// Mr. Russ Carmichael, Owner

Ellington Agricultural Center
440 Hogan Road
Nashville, TN 37220
Telephone: 615-837-5492 Fax: 615-837-5025

TENNESSEE DEPARTMENT OF AGRICULTURE

Water Resources Program

The following individual has submitted all required elements of an NMP/CNMP as required to obtain a CAFO permit. Their Nutrient Management Plan (or CNMP) has been reviewed and approved by this office.

Name of Owner/Operator: Russ Carmichael

Operation Name: Carmichael Farms

Address of Operation: 390 C.R. 732 Calhoun, TN 37309

Phone Number: (423) 336-8225 County: McMinn

Date application was initiated:

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Date approval forwarded to TDEC:

JAN 24 2012

NMP/CNMP Approval Date:

THE APPROVAL SHALL NOT BE CONSTRUED AS CREATING A PRESUMPTION OF CORRECT

JAN 24 2012

OPERATION OR AS WARRANTING THAT THE APPROVED FACILITIES WILL REACH THE DESIGNED GOALS

Date approval received by TDEC

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TDA Reviewer's Name: Angela Warden

TDA Reviewer's Signature: A L Ward 1/24/12
Date

1/24/12

Russ Carmichael Calhoun, TN

Nutrient Management Plan Requirements

McMinn Co.

Carmichael Breeder Farm

The following 9 items need to be submitted at the time the permit is applied for. Additional record-keeping items as outlined in the CAFO rules are also considered part of the nutrient management plan and must be kept on-site. More information on each item can be found in the CAFO rule (1200-4-5-.14).

☑ 1. **Two maps: (1.)** A map of your farm showing location of any animal barns/houses, compost bins, litter storage bins, manure lagoons/holding ponds, nearby roads, fields to which litter/manure will be applied, and non-application buffer areas around any bodies of water (streams, creeks, rivers, ponds, wells, sinkholes, springs, wetlands, etc.). A hand-drawn map is acceptable and even preferred. **(2.)** A topographic map of the farm (1:24000 scale, showing 1-mile radius from farm) showing property lines.

☑ 2. **Nutrient budget** – this is basically a balance sheet of all manure produced on the farm and all manure spread on the farm or removed from the farm. Application rates for all fields should be based on crop needs, realistic crop yield expectations, and actual manure analyses of nutrient content.

☑ 3. **Soil test results** for phosphorus and potassium for each application field. These must be taken at a minimum of every five years.

☑ 4. Results of **manure analysis** from within the past year. Annual manure testing is a requirement for all CAFOs. These results must be included with initial permit application if the farm is in operation. If the farm that is applying for the permit is new and not yet operating, then manure testing results need to be obtained once operation begins. At that point, the manure test results and revised application rates need to be submitted to TDA. Manure test results in subsequent years need to be kept as part of your record-keeping activities.

☑ 5. Results of the **Phosphorus Index** applied to each field that has a soil test P value of "High" or "Very High". In those situations, this tool will determine whether your application rates will be based on nitrogen or phosphorus.

☑ 6. Statement regarding method of **dead animal disposal**.

☑ 7. **Closure Plan** to be implemented in the event animal production ceases on the site.

These last two items are only required for medium-size CAFOs that manage **liquid manure**.

☑ 8. Documentation of **design of liquid waste handling system**. This should include, but is not limited to: volume for solids accumulation, design treatment volume, total design volume, the approximate number of days of storage capacity, pumping and routing of wastes, and any solid separation process. Ideally, this documentation would consist of the pertinent engineering drawings with accompanying descriptive narrative.

☑ 9. The construction, modification, repair, or installation of any portion of a CAFO liquid waste handling system (such as earthen holding pond, treatment lagoon, pit, sump or other earthen storage/containment structure) after April 13, 2006 must be preceded by a thorough **subsurface investigation**. This investigation will include a detailed soils investigation with special attention to the water table depth and seepage potential.

In addition to the items above, the following form(s) must accompany your application:

☑ ***Notice of Intent* form** must be submitted with all applications from Class II (Medium) CAFOs

OR

☑ **EPA Forms 1 and 2B** must be submitted with all applications from Class I (Large) CAFOs.

☑ **Addendum to Nutrient Management Plan**.

Tennessee Department of Environment and Conservation,
Division of Water Pollution Control
401 Church Street, 6th Floor L & C Annex, Nashville, TN 37243
(615) 532-0625

CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)
STATE OPERATING PERMIT (SOP)
NOTICE OF INTENT (NOI)

Type of permit you are requesting: ☐ SOPCD0000 (designed to discharge) ☑ SOPC00000 (no discharge) ☐ Unknown, please advise

Application type: ☐ New Permit ☑ Permit Reissuance ☐ Permit Modification

If this NOI is submitted for Permit Modification or Reissuance provide the existing permit tracking number: TNA000165

OPERATION IDENTIFICATION

Operation Name: Carmichael Farms	County: McMinn
Operation Location/ Physical Address: 390 C.R. 732 Calhoun, TN 37309	Latitude: 35 18.87
	Longitude: -84 42.74
Name and distance to nearest receiving water(s): Oostanaula	
If any other State or Federal Water/Wastewater Permits have been obtained for this site, list those permit numbers:	
Animal Type: ☒ Poultry ☐ Swine ☐ Dairy ☐ Beef ☐ Other ____	
Number of Animals: 36000 / Number of Barns: 4 / Name of Integrator: Pilgrims Pride	
Type of Animal Waste Management: (check all that apply) ☒ Dry ☐ Liquid ☐ Liquid, Closed System (i.e. covered tank, under barn pit, etc.)	
Attach the NMP ☑ NMP Attached / Attach the closure plan ☑ Closure Plan Attached / Attach a topographic map ☑ Map Attached	

PERMITTEE IDENTIFICATION

Official Contact (applicant): Russ Carmichael	Title or Position: Owner			
Mailing Address: 268 C.R. 31	City: Riceville	State: TN	Zip: 37370	☐ Correspondence ☐ Invoice
Phone number(s): 423-336-8225	E-mail: russcarm@yahoo.com			
Optional Contact:	Title or Position:			
Address:	City:	State:	Zip:	☐ Correspondence ☐ Invoice
Phone number(s):	E-mail:			

APPLICATION CERTIFICATION AND SIGNATURE (must be signed in accordance with the requirements of)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and title; print or type	Signature	Date
Russ Carmichael owner	Russ Carmichael	12/19/11

STATE USE ONLY

Received Date	Reviewer	EFO	T & E Aquatic Fauna	Tracking No.
	Impaired Receiving Stream	High Quality Water		ID No.

APPROVED
The Division of Water Pollution Control

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Addendum to Nutrient Management Plan:

By my signature below, I affirm that I have read, understand, and will comply with the following stipulations from Tennessee's CAFO rule (1200-4-5-.14) that apply to my CAFO operation.

1) All clean water (including rainfall) is diverted, as appropriate, from the production area.
2) All animals in confinement are prevented from coming in direct contact with waters of the state.
3) All chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
4) All sampling of soil and manure/litter is conducted according to protocols developed by UT Extension.
5) All records outlined in 1200-4-5-.14(16)d-f will be maintained and available on-site.
6) Any confinement buildings, waste/wastewater handling or treatment systems, lagoons, holding ponds, and any other agricultural waste containment/treatment structures constructed after April 13, 2006 are or will be located in accordance with NRCS Conservation Practice Standard 313.
7) Drystacks of manure or stockpiles of litter are always kept covered under roof or tarps.
8) An *Annual Report* will be written for my operation and submitted between January 1 and February 15 of each year. It will include all information required by rule [1200-4-5-.14(16)g].

Russ Carmichael
Signature of CAFO Operator:

12/19/11
Date:

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Russcarm@yahoo.com

AGRICULTURAL DIAGNOSTIC LABORATORY
UNIVERSITY OF ARKANSAS - FAYETTEVILLE
***MANURE FOR FERTILIZER ANALYSIS (report for AGRI-429)

Name:	LENA BETH REYNOLDS, EXT. SPECIALIST	Received in lab:	11/18/2011
Address:	107 WEST COLLEGE ST.	Mailed:	12/01/2011
City:	ATHENS	State,Zip:	TN 37303
County:	McMINN (TN)	CK#:	Bill to Dr. Forbes Walker - UT

Lab. No.	M11493
Sample No.	RUSSELL
Animal type	hens
-age/lbs	15 mo/8 lbs
Bedding type	rice hulls
Manure type	cleanout
Sample date	11/10/2011
Age of manure	0-7 months
pH	8.4
EC(umhos/cm)	14810
% H20	52.46
-on dry basis-	
Total %N	1.77
Total %P	2.34
Total %K	2.49
Total %Ca	9.75
Total %Carbon	14.56
NO3-N, mg/kg	
NH4-N, mg/kg	
-on as-is basis-	
Total %N	0.84
Total %P	1.11
Total %K	1.18
Total %Ca	4.63
Total %Carbon	6.92
NO3-N, mg/kg	
NH4-N, mg/kg	
-lbs/ton on as-is basis-	
N	16.8
P2O5	51.0
K2O	28.6
Ca	92.7
Total Carbon	138.4
NO3-N	
NH4-N	

***all analyses performed on "as-is" basis/ "dry" basis is calculated from moisture content
*lbs/ton P2O5 = %Total P on "as-is" basis multiplied by 20*2.29
*lbs/ton K2O = %Total K on "as-is" basis multiplied by 20*1.2

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Nutrient Management Plan - Poultry

For Use by Farms

Exporting 100% of Litter Generated

1. Farmer/ Producer Information

Is **ALL** Litter Hauled Offsite*

"If the answer is "No," do not complete this form.

Yes	No
Please circle one	

First Name: Russ

Last Name: Carmichael

Farm/ Operation Name: Carmichael Farms

Tennessee County: McMinn

2. Volumes and Calculations

Poultry Type:

Broiler	Pullet	Layer
circle the type(s)		

Key

A Number of birds per house per grow-out: 9000

B Number of Houses: 4

The amount of litter removed from a poultry house will vary depending on the litter moisture content, type and size of birds, and length of time birds are kept in house. Below is a Table summarized from the NRCS Poultry System Calculator V10.0 to assist in placing the litter amount produced per bird and assist in litter

Type of Bird	Market/ Mature Weight (lbs)	Avg. Weight of Litter Produced (lbs)/ Bird / Grow-Out
Broilers	small (3.8 - 5 .8)	2.1
	large (5.9 - 7+)	2.4
Layer	8 - 12	8
Pullet	5.5	3

C Number of Grow-Outs / Year: 1

D Average Weight of Litter Produced (lbs.)/ Bird / Grow-Out *(see Table at right or use your farm average if known)*: 8

*Take **Bolded** Letters in **Key** Column Above and Below to Assist in Calculating Values Below*

Number of Birds per Grow-Out = A x B = 36,000

Number of Birds Example: If A = 22,000 and B= 2 and C= 5.5 then: 22,000 X 2 = 44,000 number of birds

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KEY

E Number of Birds per Year = A x B x C = 36000

Number of Birds per Year Example: If A = 22,000 and B= 2 and C = 5.5 then: 22,000 x 2 x 5.5 =242,000 number of birds per year

Total Tons of Litter Produced per Year on the Farm = E x D / 2,000 = [redacted] 630

Tons of Litter Produced Example: If E = 242,000 and D = 2 lbs then: 242,000 x 2 lbs = 548,000 lbs. / 2,000 = 254 Tons

Tons of Litter Exported from Farm / Year [redacted] 630

ALW for Mr. Carmichael

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Nutrient Management Plan - Poultry

For Use by Farms

Exporting 100% of Litter Generated

3. Litter Handling and Storage

Litter Contents from Manure Analysis (*as is basis*)

Laboratory Name	House	Date of Analysis	Total N	P_2O_5[a]	K_2O[b]	Units
U of Ark	1+2	11/18/2011	16.8	51	28.6	lbs./Ton
						lbs./Ton
						lbs./Ton

I will get an annual manure analysis and provide the results to all parties which are given or purchase litter from my farm or operation.

Russ Carmichael 1/11/12

Signature / Date Signed

Mortality Management

Dead birds will be disposed of according to State and local laws in a way that does not adversely affect groundwater or create public health concern. All mortalities will be disposed of using:

Composting	Incineration	Other: off site disposal
please circle one		

R.C.
initials

Closure Plan

In the event that poultry production at this location ceases, the following will be done within 360 days:

- Any litter/ compost currently in storage at the time of closure will be removed and spread elsewhere according to my current NMP.
- All litter in houses will be removed and spread elsewhere according to my current NMP.
- The most current manure analysis performed by an accredited laboratory will be provided to anyone removing litter on my farm.
- Any dead birds in the houses at the time of closure will be disposed of according to my NMP.

Russ Carmichael 1/11/12

Signature that I have read and agree to this Closure Plan / Date signed

Notes:

N = Nitrogen P_2O_5 = Phosphorus Oxide K_2O = Potassium Oxide

[a]If Phosphorus is expressed in analyses as Phosphorus (P), simply multiple P lbs. X 2.3 to convert to P_2O_5.

[b]If Potassium is expressed in analyses as Potassium (K), simply multiple K lbs. X 1.2 to convert to K_2O.

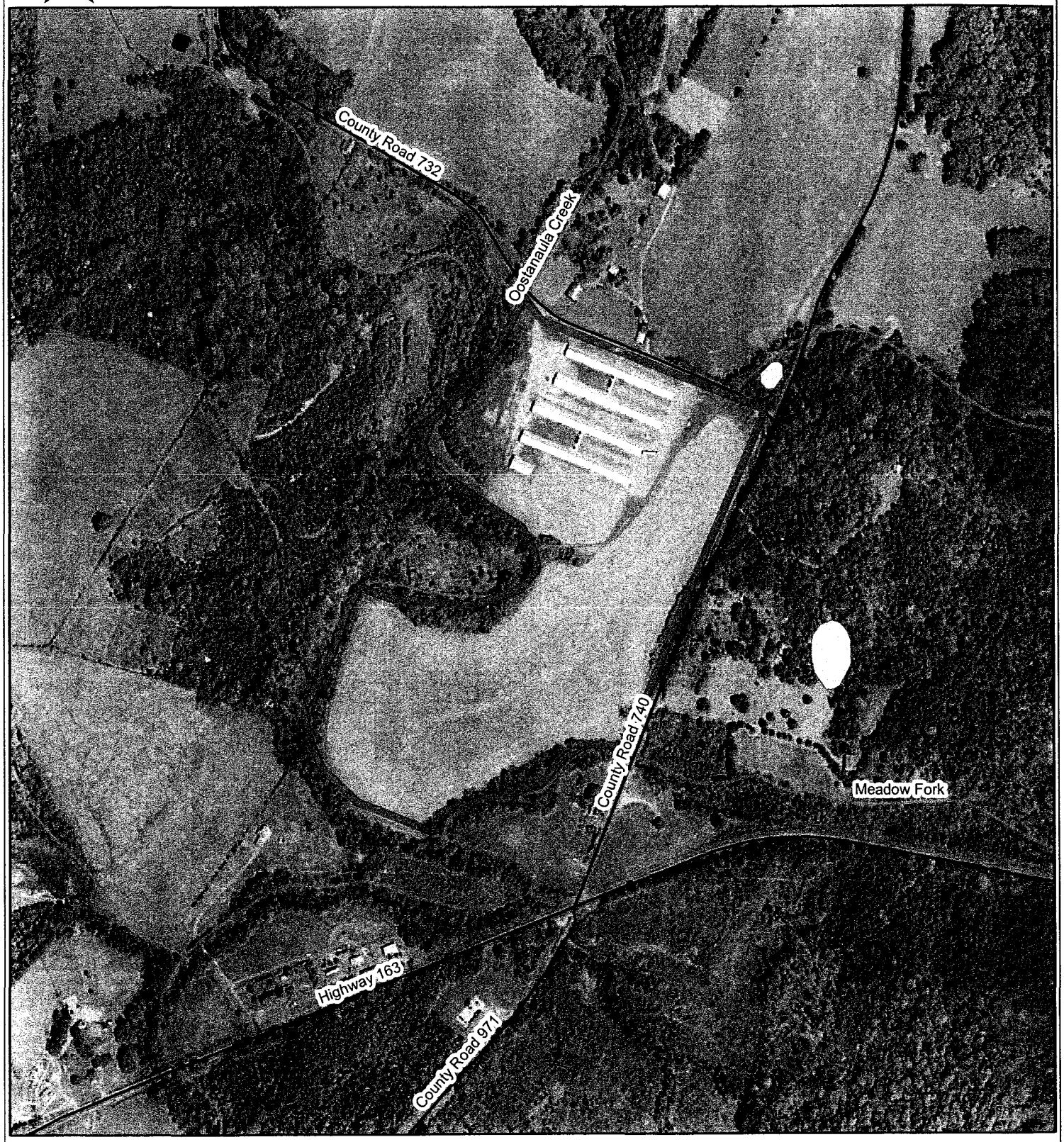
2/14

Russ Carmichael Poulty Operation

H20 control

Field Office: ATHENS SERVICE CENTER
Customer(s): RUSS CARMICHAEL

Agency: USDA/NRCS



Legend

- Farm Boundaries
- Roads
- Water
- Streams

500 0 500 1,000 1,500 Feet

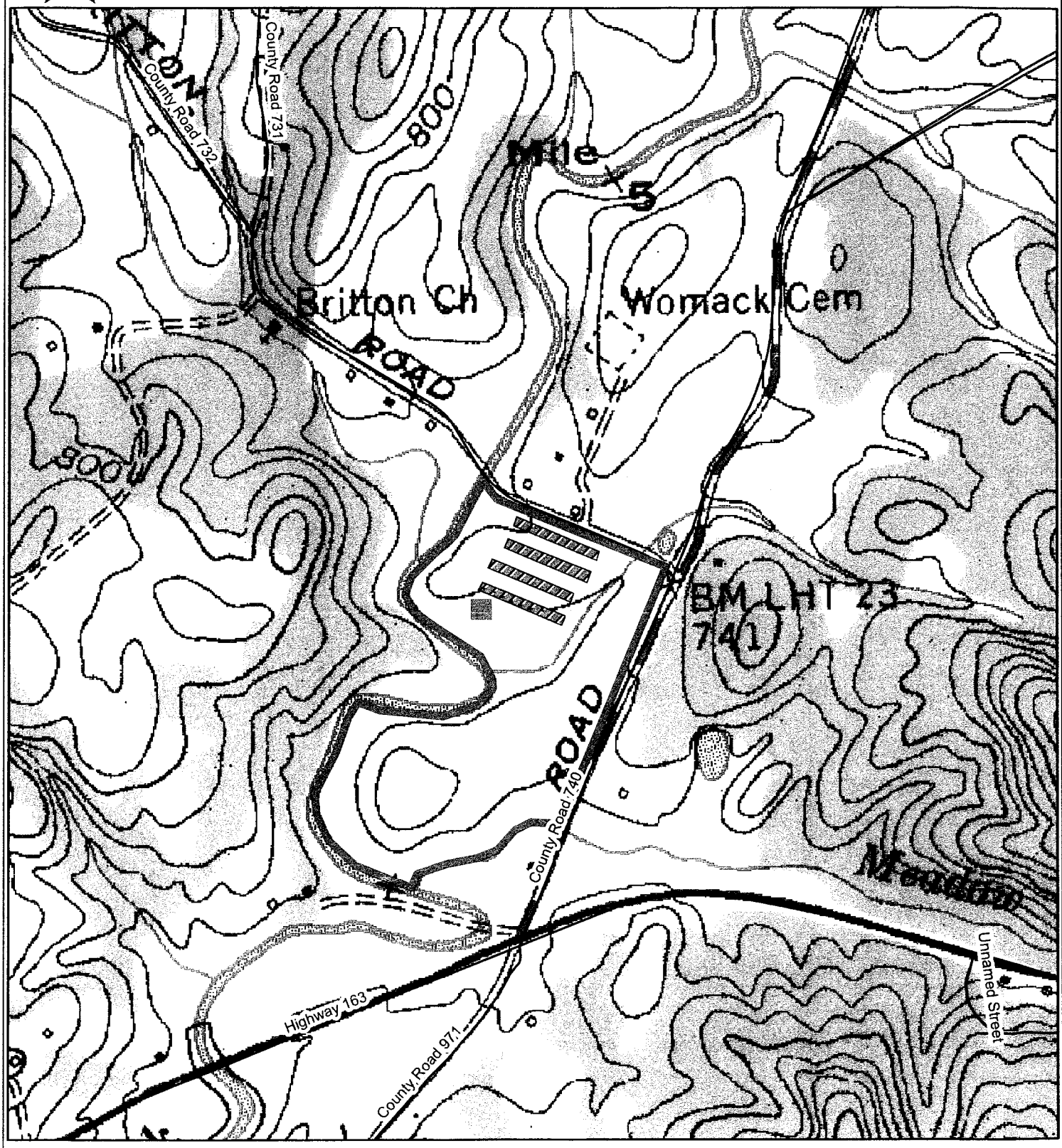
Image: Topo Maps

Russ Carmichael Poulty Operation Topo Map

Field Office: ATHENS SERVICE CENTER
Customer(s): RUSS CARMICHAEL

4/20 Control

Agency: USDA/NRCS



Legend

- Litter Storage Building
- Layer Houses
- Farm Boundaries
- Roads

660 0 660 1,320 1,980 Feet

Image: Topo Maps

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